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BOISE RIVER BASIN (IDAHO) PRELIMINARY ECONOMIC RECONNAISSANCE AND ESTIMATE OF GROWTH, 1960-2010

Public Health Service
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COLUMBIA RIVER BASIN PROJECT
For Water Supply and Water Quality Management

BOISE RIVER BASIN (IDAHO)
PRELIMINARY ECONOMIC RECONNAISSANCE AND ESTIMATE OF GROWTH, 1960-2010

DATE: May 24, 1962

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This working paper contains preliminary data and information primarily intended for internal use by the Columbia River Basin Project staff and cooperating agencies. The material presented in this paper has not been fully evaluated and should not be considered as final.

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Prepared by: Economic Studies Group
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May, 1962

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INTRODUCTION

Purpose of Analysis

This analysis is intended to provide a preliminary estimate of the economic potentials and anticipated growth of the subject area.

Definition of Area

For purposes of this analysis, the Boise River Basin is defined as the area included in Ada and Canyon Counties. The study area thus defined includes some land, in the southern portion of the two counties, which lies outside the physical boundary of the Boise River Basin, draining south into the Snake River. The study area excludes the upstream portion of the Boise River, lying to the east in Boise and Elmore Counties. Even though the boundaries of Ada and Canyon Counties do not coincide with the physical boundary of the Boise River Basin, they do include the portion of the Basin in which domestic and industrial water supply and pollution control are likely to be a problem.

Study Period

The study period is the 50-year period 1960-2010, with an interim point at 1980.

Limitations of Analysis

Two limitations apply to this study. The first is that it is intended only as a preliminary estimate of the outlook for the subject area's growth. Subsequently, in connection with the Columbia River Basin Project for

Water Supply and Water Quality Management, an analysis will be made on an industry-by-industry basis of the growth potential in the various sub-basins. At that time, this preliminary estimate will be reviewed, and revised if necessary.

The second limitation is that this study is intended for use particularly in assessing future water needs. Emphasis has been placed on the analysis of those industries which make heavy demands upon the water resource. Other industries have been considered only insofar as they may have a significant effect on future population. For this reason, this study is not submitted as a detailed industrial forecast.

PRESENT ECONOMIC BASE

Population

Total population in Ada and Canyon Counties, as of April 1960, was 151,122. Table I shows how this population is distributed among the various cities and rural portions of the study area. About half of the population is in the Boise Urban Area. The Boise Urban Area includes the urbanized areas contiguous to the incorporated city of Boise which have not been annexed. The other nine cities make up about a quarter of the population, and the remaining quarter is rural population.

Table I
POPULATION, BOISE RIVER BASIN (ADA AND CANYON COUNTIES), 1950 and 1960[a]

City or Area	1950	1960	Compound Annual Rate of Growth, %
Boise Urban Area, Total	55,000[b]	73,960	3.0
Boise, city	34,393	34,482	0
Collister CCD[c]	n.a.	6,677	
Franklin CCD[c]	n.a.	12,120	
Garden City CCD[c]	n.a.	3,322	
South Boise CCD[c]	n.a.	2,544	
Whitney CCD[c]	n.a.	14,823	
Kuna, city	534	516	Decr.
Meridian, city	1,810	2,081	1.4
Ada County, rural portion[d]	13,305[b]	17,411	2.7
Ada County, Total	70,649	93,460	2.8
Caldwell, city	10,487	12,230	1.5
Melba, city	203	197	Decr.
Middleton, city	496	541	0.9
Nampa, city	16,185	18,013	1.1
Notus, city	313	324	0.3
Parma, city	1,369	1,295	Decr.
Wilder, city	555	603	0.8
Canyon County, rural portion[d]	23,989	24,459	0.2
Canyon County, Total	53,597	57,662	0.7
TOTAL, Boise River Basin (Ada plus Canyon Counties)	124,246	151,122	2.0
Comparative Growth Rates:			
Southern Idaho Region[e]	446,473	514,578	1.4
Idaho, Total State	588,637	667,191	1.3
United States, Total	151.8m	180.0m	1.7

a/ Source: U.S. Census of Population, April 1950 and April 1960.
b/ The Boise Urban Area has been defined to include the area comprising the 1960 Census County Divisions shown in the table. Comparable figures for 1950 are not available because the precincts used as statistical units for the 1950 census do not correspond to the 1960 Census County Divisions. An estimate has been made by relating the precinct map in the 1950 census to the Census County Division map in the 1960 census. Data for Boise city alone are not adequate because annexations have not brought into the city the built-up area around it.
c/ The CCD is the Census County Division as established for the 1960 census and as shown in the maps in U.S. Census of Population, 1960, Idaho, Number of Inhabitants, page 14-6.
d/ The "rural" portion is defined to include all population outside the Boise Urban Area and the incorporated cities shown in the table.
e/ Defined to include all of Idaho south of Idaho County.

Table I also shows the growth that took place in the various cities and rural areas in the study area during the 1950-60 decade. The study area as a whole (Ada and Canyon Counties) grew 2.0 percent per year, a somewhat more rapid rate of growth than that of the Southern Idaho Region of which it is a part, which grew only 1.4 percent per year. The Southern Idaho Region is defined to include all of Idaho south of Idaho County. Most of the growth in the study area occurred in the Boise Urban Area. Considerable growth also took place in the "rural" portion of Ada County, but it should be noted that the "rural" portion includes suburban areas around the Boise Urban Area. Caldwell, Nampa, and Meridian grew moderately during the decade, more or less in step with total state population. The small cities and the rural portion of Canyon County showed little or no growth.

Industry

The economy of the Boise River Basin is heavily dependent upon agriculture and food products manufacturing. Nearly half of all manufacturing employees in April 1960 were in food products manufacturing, while 13 percent of the total labor force was in agriculture, about double the national average. Table II shows the employment pattern in 1960.

Table II
EMPLOYMENT BY INDUSTRY, BOISE RIVER BASIN, APRIL 1950 AND APRIL 1960

	1950	1960	1960 as % of 1950
Total Labor Force	47,680	59,902	126
Military	115	296	257
Unemployed	2,608	3,157	121
Industry not reported	843	1,311	156
Classifiable Employed Civilian L.F.	44,114	55,138	125
Agriculture	8,588	7,754	90
Forestry and Fisheries	103	173	168
Mining	132	95	72
Manufacturing, Total	3,250	6,784	209
Lumber, wood products	335	613	183
Food and kindred	1,329	3,230	243
Printing and publishing	592	759	128
Other manufacturing	994	2,182	220
Construction	4,344	4,612	106
Services	27,697	35,720	129

Source: U.S. Census of Population, 1950 and 1960

Table II also shows the changes that took place in the employment pattern during the 1950-60 decade. The two most significant changes during the decade were the large increases in food products manufacturing and in "other manufacturing." The latter increase shows an important trend towards diversification of the economic base of the study area. During the decade, agricultural employment, while remaining the largest of the industrial classifications, declined, not only relatively but absolutely. However, agricultural production increased substantially during the decade, so that there was a marked increase in productivity per agricultural worker.

The economic base of the Boise River Basin can be seen more clearly by comparing the employment pattern there with that in the entire southern Idaho Region, of which it is a part. This is shown in Table III. While agriculture is important in the Boise River Basin, it is relatively less predominant there than in the Southern Idaho Region. Service industry employment is relatively more important. The Boise Urban Area is providing services for the rest of the Region, particularly in wholesale trade, finance-insurance-real estate, business services, professional and related services, and public administration. The latter is largely due to the location of the state capitol at Boise. The concentration of service industry employment in the Boise Urban Area is less pronounced than in the case of the central cities of other Regions, such as

Table III
EMPLOYMENT DISTRIBUTION
BOISE RIVER BASIN AND SOUTHERN IDAHO REGION, APRIL 1960
Percent of Total Labor Force

Industry or Class	Boise River Basin (a)	Southern Idaho Region (b)
Total Labor Force	100.0	100.0
Military	0.5	2.1
Unemployed	5.3	4.7
Industry not reported	2.2	2.1
Classifiable Employed Civilian L.F.	92.0	91.1
Agriculture	12.9	19.2
Forestry and Fisheries	0.3	0.4
Mining	0.2	0.3
Manufacturing, Total	11.3	10.5
Lumber, wood products	1.0	1.3
Food and kindred	5.4	4.8
Printing and publishing	1.3	0.9
Other manufacturing	3.6	3.5
Construction	7.7	6.7
Services	59.6	54.0

Source: U.S. Census of Population, April 1960
(a) Includes Ada and Canyon Counties.
(b) Includes all of Idaho south of Idaho County.

Seattle or Portland, because the Southern Idaho Region does not have a single predominant urban area. Pocatello and Idaho Falls rival Boise in providing services. The large number of workers in "construction" is partly due to the fact that the headquarters of the Morrison-Knudsen Co. are in Boise.

Agricultural Land Use

Table IV shows how the land in farms in the Boise River Basin was divided among the various uses in 1954 and 1959. The type of use employing the greatest number of acres is pasture. The principal change in land use during the five-year period 1954-59 was a ten percent increase in cropland harvested. There was also an eight percent increase in irrigated acreage during the 1954-59 period. Of the 330,000 acres irrigated in 1959, 249,000 were cropland harvested and the remaining 81 were in pasture uses. Total land in farms increased six percent from 1954 to 1959.

Table IV
AGRICULTURAL LAND USE, ADA AND CANYON COUNTIES, 1954 and 1959[a/]
Thousands of Acres

Type of Use	1954	1959
Land in Farms, Total	627	667
Cropland harvested	237	260
Cropland in fallow, etc.	20	15
Land used for pasture	314	324
Cropland used for pasture	61	53
Woodland used for pasture	15	34
Pasture land	238	237
Woodland	4	-
Other (lots, roads, etc.)	52	68
Irrigated acres (included in above uses)	306	330

Source: U.S. Census of Agriculture, 1959

The types of crops raised on the "cropland harvested" acres in 1959 are shown in Table V. Of the 260,000 acres shown in the table, 249,000 were irrigated.

Table V
ACRES OF CROPLAND, BY TYPE OF CROP, ADA AND CANYON COUNTIES, 1959

Type of Crop	Acres, Thousands
Hay	86
Grains	65
Corn	45
Sugar Beets	23
Field seeds	14
Corn seed	7
Potatoes	6
Beans	4
Orchards	4
Miscellaneous	6
Total, Cropland Harvested	260

Source: U.S. Census of Agriculture, 1959

Two of the principal crops providing materials for the food processing industry in the Boise River Basin are potatoes and sugar beets. Table VI shows the volume of production of these two crops in 1954 and 1959. Production of both of these crops increased substantially during the five years from 1954 to 1959.

Table VI
VOLUME OF PRODUCTION, POTATOES AND SUGAR BEETS
ADA AND CANYON COUNTIES, 1954 and 1959

Crop and Measure	1954	1959	1959 as % of 1954
Ada and Canyon Counties:			
Potatoes, hundredweight	1,324,959	1,921,008	145
Sugar Beets, tons	469,566	613,092	131
Comparative statistics for all of Idaho:			
Potatoes, hundredweight	25,735,619	40,130,750	156
Sugar Beets, tons	1,547,436	1,953,046	126
Ada and Canyon Counties as Percent of Total Idaho:			
Potatoes	5.1	4.8	
Sugar Beets	30.3	31.4	

Source: U.S. Census of Agriculture, 1959

The values of the major classes of farm products produced in Ada and Canyon Counties in 1954 and 1959 are shown in Table VII. Livestock, dairying, and field crops are all important in the agricultural economy of the Basin. Principal crops are potatoes, sugar beets and grains. All of the classes of products shown in Table VII increased substantially during the five-year period 1954-59. The value of livestock showed a particularly large increase.

Table VII
VALUE OF FARM PRODUCTS PRODUCED IN ADA AND CANYON COUNTIES, 1954 and 1959
(in millions of dollars)

Type of Products	1954	1959	1959 as % of 1954
Crops	20.6	26.4	128
Dairy	11.7	15.2	130
Poultry	1.1	2.1	191
Livestock	10.3	20.1	195
TOTAL, All Farm Products	43.7	63.8	146

Source: U.S. Census of Agriculture, 1959

ESTIMATED FUTURE GROWTH

Factors Influencing Future Growth

Future growth in the Boise River Basin, comprising Ada and Canyon Counties, will depend largely upon the following factors:

1. Irrigation is expected to increase, leading to increases in agricultural acreage and production within the study area.

2. Food products manufacturing, the principal manufacturing industry in the Basin at present, is expected to increase in the future. Potato

and sugar beet processing and meat packing are important industries in the Basin now, and these are expected to increase substantially. The agricultural raw materials for these industries are now drawn largely from Ada and Canyon Counties themselves. While the radius within which agricultural products are brought to the study area for processing might increase if its plants become larger and more economical than competing plants, it seems likely that increased agricultural acreage and production within the study area itself will be essential to the anticipated increase in food products manufacturing.

3. Construction employment in the Basin is likely to remain above the Regional or national average. An important construction firm, the Morrison-Knudsen Co., has its headquarters in Boise, though this is a somewhat fortuitous circumstance which could be vulnerable to change. Assuming a continuation of 'Cold War' activity, the missile base and nuclear reactor programs in the Southern Idaho Region are likely to continue to expand, with substantial construction requirements.

4. Employment by "government" in Boise is likely to continue to increase because of the location of the state capitol there.

5. Considerable growth in diversified manufacturing occurred in the Study Area during the 1950-60 decade, and this trend is expected to continue. One factor influencing this increase is that as population and the economy increase in size, the market grows sufficiently to justify the local manufacture of products formerly imported.

6. Some increase seems likely in those service industries associated with tourism. While tourist attractions within the study area itself are

not outstanding, the study area should feel some effects from tourists visiting Sun Valley and recreational areas in other parts of Idaho and the Pacific Northwest.

Of the factors listed above, the most fundamental appears to be the potential increase in irrigated acreage. One specific project for increasing irrigation in the vicinity of the study area is that of the Bureau of Reclamation, under whose Snake River Project about 119,000 new acres would be brought into irrigation at the Guffy, Long Tom and Hillcrest Units of the Mountain Home Division. An additional 12,500 acres now receiving partial irrigation would receive increased water under the project. All of this acreage is either in Ada or Canyon County or in adjacent counties within the supply radius of food processing plants in the study area. It is assumed in this economic reconnaissance that this project will be fully developed by 1980, and that further increases in irrigation in counties adjacent to the study area will be possible during the remainder of the study period.

The increased irrigation from the project described in the preceding paragraph would represent an increase of about 40 percent over present irrigated acreage. If the new land is put to uses in proportions similar to cropland at present, as shown in Tables IV and V, it is assumed that a comparable percentage increase in food products manufacturing might be expected. On that basis, and assuming further increases in irrigation and in productivity per acre in the future, employment in food products

manufacturing in the study area might reasonably increase along the lines suggested below:

1960	1980	2000	2010
3,200	4,600	5,000	5,200

Future Population

An estimate of future population in the Boise River Basin is shown in Table VIII. This is based upon a projection of Idaho's future population by the Kerr Committee on Water Resources. The estimates in Table VIII of the Boise River Basin's share of Idaho population and the allocation of Basin population among the various cities and rural areas of the Basin is based upon an extrapolation of historic trends, modified by general considerations of factors likely to affect the economic growth of the respective areas. While no detailed study of demand and supply factors for individual industries has been made for this economic reconnaissance, the population growth shown in Table VIII is consistent with the growth suggested for food products manufacturing, and also with the other growth factors listed in the previous section.

Table VIII
ESTIMATED FUTURE POPULATION, BOISE RIVER BASIN, 1960-2010,
AND ILLUSTRATIVE POPULATION DISTRIBUTION AMONG CITIES AND RURAL AREAS
(Population figures are in thousands; rates are compound annual percent.)

City or Area	Pop., 1950 (000)	1950-1960 Rate %	Pop., 1960 (000)	1960-1980 Rate %	Pop., 1980 (000)	1980-2000 Rate %	Pop., 2000 (000)	2000-2010 Rate %	Pop., 2010 (000)
Idaho, state total	589	1.3	667	1.7	931a	1.8	1335a	1.4b	1534
Boise Basin (c)	124	2.0	151	2.0	223	2.1	336	1.8	400
Boise Urban Area (d)	56	2.8	74	2.6	125	2.6	208	2.2	259
Boise Basin as percent of Idaho	21.1%		22.6%		24.0%b		25.2%b		26.0%b
Boise Urban Area as percent of Boise Basin	45%		49%		56%b		62%b		64%b
Nampa city (e)	16.2	1.1	18.0	1.3	23.3	1.3	30.2	1.1	33.7
Caldwell city (e)	10.5	1.5	12.2	1.3	15.8	1.3	20.5	1.1	22.9
Meridian city (e)	1.8	1.4	2.1	1.3	2.7	1.3	3.5	1.1	3.9
Kuna city (f)	.5	Decr.	.5	1.1	.6	1.1	.8	0.9	.9
Melba city (f)	.2	Decr.	.2	1.1	.2	1.1	.3	0.9	.3
Middleton city (f)	.5	0.9	.5	1.1	.6	1.1	.8	0.9	.9
Notus city (f)	.3	0.3	.3	1.1	.4	1.1	.5	0.9	.6
Parma city (f)	1.4	Decr.	1.3	1.1	1.6	1.1	2.1	0.9	2.3
Wilder city (f)	.6	0.8	.6	1.1	.7	1.1	.9	0.9	1.0
Rural portions (g)	37.3	1.2	41.9	1.1	52.0	1.1	68.3	0.9	74.5

(a) Kerr Committee on National Water Resources, Committee Print No. 5, March 1960, page 29, Series II, Migration Assumption No. 1.
(b) Factor assumed in making estimates.
(c) Includes Ada and Canyon Counties.
(d) Includes the area as defined in Table I.
(e) It is assumed that these cities will grow at about half the rate of the Boise Urban Area.
(f) It is assumed that these cities will grow at a rate slightly less than that of Nampa, Caldwell and Meridian.
(g) "Rural" portion includes all unincorporated area outside the Boise Urban Area. Because of the expansion anticipated in agriculture, it is assumed that the rural portion of this Basin will not decrease in population, as might be expected in other Basins, but will increase at about the same rate as that of the small incorporated places.

Note: Items may not add to total because of rounding.